

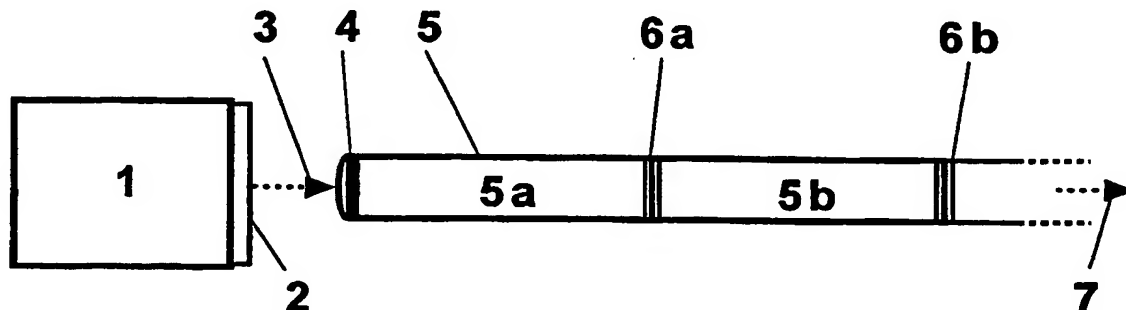
(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
29 March 2001 (29.03.2001)

PCT

(10) International Publication Number
WO 01/22544 A1(51) International Patent Classification⁷: **H01S 5/14**(21) International Application Number: **PCT/IB00/01237**(22) International Filing Date:
1 September 2000 (01.09.2000)(25) Filing Language: **English**(26) Publication Language: **English**(30) Priority Data:
99810837.7 21 September 1999 (21.09.1999) **EP**(71) Applicant (for all designated States except US): **JDS
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strasse 34, CH-8134 Adliswil (CH).(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW.(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**Published:**— *With international search report.**For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*(54) Title: **STABILIZED LASER SOURCE**

(57) Abstract: The invention relates to the stabilization of semiconductor laser diode sources as they are extensively used in the field of optical communication. Such lasers are mostly employed as so-called pump laser sources for fiber amplifiers, e.g. Erbium-doped fiber amplifiers, and are designed to provide a narrow-bandwidth optical radiation with a stable power output in a given frequency band. To improve the stability of such laser sources compared to prior art designs, a plurality of "external" cavities is provided. In the commonly employed optical fibers for conducting the laser beam, these cavities may be formed by a plurality of appropriately designed Bragg gratings. However, the cavities may as well be formed by other means reflecting a given amount of the energy back to the laser in a desired frequency band, thus effecting the desired stabilization of the laser's intensity and frequency.

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